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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/010,427	11/30/2001	Roberto L. Quoiani	FMCE-P073	5491
7590		06/18/2004	EXAMINER PICKARD, ALISON K	
Henry C. Query, Jr. 504 S. Pierce Avenue Wheaton, IL 60187		ART UNIT 3676		
DATE MAILED: 06/18/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/010,427

Applicant(s)

QUOIANI, ROBERTO L.

Examiner

Alison K. Pickard

Art Unit

3676

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,7-9,14-18 and 20-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,7-9,14-18 and 20-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3, 4, 7-9, 14-18, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rogen (4,515,213) in view of Amancharla (4,007,783).

Rogen discloses a metallic seal component installed in a bore comprising a shape memory alloy (such as NiTi). The component has an initial configuration that forms a clearance fit with the bore and expands from being heated to form a metal-to-metal seal. The component can be heated by a mandrel (such as a cable or springs 33, which are made of the alloy, too). The seal enabling state is effected by heating or cooling, thus is one-way and/or two-way alloy (see col. 12 line 9 through col. 13, line 53). The component is tubular and can be considered to have a U-shaped cross-section (esp. when expanded) (see Figs. 1A/B and 6B). The component comprises a back up spring 33. The component has a sealing ridge L that makes sealing contact. The component is bi-metallic in that it has two metal parts (i.e. spring and sleeve) or it can comprise a corrosion coating (see col. 12, lines 1-8), or the lip L can be a metal coating (see col. 4, lines 20-24). Rogen does not disclose a recessed surface in the bore. Amancharla teaches a seal component installed in a bore. As seen in Figures 6a and 7a, Amancharla teaches a recess undercut into the bore (near line 85). The seal component expands into the recess such that the system is secured in place within the bore. It would have been obvious for one of ordinary skill

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in the art at the time the invention was made to modify the bore of Rogen with an undercut recess as taught by Amancharla to ensure the seal is secured/locked in position within the bore.

Note: Collins '764 and Nelson '032 also teach the use of a recessed bore for securing a seal in place.

3. Claims 1, 3, 7-9, 14, 15, 18, and 20-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Duncan (5,735,344) in view of Rogen.

Duncan discloses a metallic seal component 29 (see title) in a bore having an undercut recess (seen best in Figure 2). The seal seals between an inner tube 14 and outer tube 11. The annular ring has first 31 and second 32 axially extending legs joined by a base. The legs comprise bumps 35 to engage the recess and other tube member. An annular member or energizing mandrel 41 is attached to the legs. As seen in the figure, the tip of the mandrel is less than or equal to the width of the gap between the legs. Duncan does not disclose that the metal seal or the mandrel is comprised of a shape memory alloy. Rogen teaches a metallic seal component in a bore. Rogen teaches the seal and the energizing mandrel are made from a shape memory alloy (NiTi). Rogen teaches the use of this material to provide a recoverable and reusable seal. Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to make the seal and mandrel from shape memory alloy as taught by Rogen to provide a recoverable and reusable seal.

#### ***Response to Arguments***

4. Applicant's arguments filed 3-29-04 have been fully considered but they are not persuasive and are moot in view of the new grounds of rejection.

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McCrone '847 can read on claims 21 and 24. Also, Duncan in view of Ross can read on at least claims 25-27.


*Conclusion*

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alison K. Pickard whose telephone number is 703-305-0882. The examiner can normally be reached on M-F (10-7:30), with alternate Friday's off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Swann can be reached on 703-306-4115. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Alison K. Pickard  
Primary Examiner  
Art Unit 3676

AP